

SUPPORT FOR THE AMENDMENTS

Newly-added Claims 5-30 are supported by the specification and the original claims. Accordingly, no new matter is believed to have been added to the present application by the amendments submitted above.

REMARKS

Claims 5-30 are pending. Favorable reconsideration is respectfully requested.

The present invention relates to a raw material liquid for a carbonated beverage, comprising Aspartame as a sweetener and an emulsifier having an HLB value of 1 to 14 or/and an emulsifier having a molecular weight of 50 to 300. See Claim 5. The present invention also relates to a raw material liquid for a carbonated beverage, comprising Aspartame as a sweetener and an emulsifier having an HLB value of 3 to 11. See Claim 6. That is, the invention is directed to a liquid composition containing Aspartame and the specified emulsifier.

Aspartame is a widely-used artificial sweetener, especially in "diet drinks." Carbonated beverages containing Aspartame are known to produce an unacceptable level of foam. See the discussion at pages 1-3 of the present specification.

In the past, silicone-based anti-foaming agents have been used. However, such silicone-based materials have a bad image with respect to safety, which may impede consumer acceptance of products containing them.

The Inventors have discovered that using an emulsifier having an HLB value lower than that of aspartame, of 1 to 14 or/and an emulsifier having a molecular weight equal to or lower than that of Aspartame, of 50 to 300 alleviates the problem with foaming without affecting the taste of the carbonated beverage. It is to be noted that their performance as an anti-foaming agent has heretofore not been known, c.f. page 5, full paragraphs 2 and 4, and page 7, full paragraph 3, of the instant specification.

The rejection of the claims under 35 U.S.C. §103(a) over Morey in view of Cho et al. is respectfully traversed. The cited references fail to suggest the claimed raw material liquid for a carbonated beverage.

Morey discloses a cup coated with an anti-foaming agent to limit the amount of foam produced when a carbonated beverage is poured into the cup, in particular beverages containing Aspartame. See the Abstract and column 1, lines 22-25. At column 2, lines 50-65 the reference discloses the use of dimethylsiloxane antifoams i.e., silicone-based materials.

As recognized by the Examiner, Morey does not describe an emulsifier having an HLB value of 1 to 14 or an emulsifier having a molecular weight of 50 to 300.

Cho et al. describe carbonated coffee drinks. In column 1 of the reference, Cho et al. provide a detailed description that coffee contains "colloidal material" which is called "the coffee." Cho et al. explain that while these colloidal materials are important for flavor, they cause bubbling. This bubbling makes it difficult to dispense coffee-based beverages. Cho et al. are, however, not even suggestive of the Aspartame-attributable bubbling or foam or any way of solving such a problem.

Cho et al. describe the use of one or more of glycerin fatty acid esters, sorbitan fatty esters, propylene glycol fatty acid esters and silicone resin with a coffee syrup. The resulting syrup is then carbonated to produce a carbonated coffee drink. See the abstract and 2, lines 53-65. These materials reduce the amount of undesirable bubbling.

The combination of Morey and Cho et al. fails to suggest the claimed liquid. Morey relates to the problem of foaming caused by Aspartame. In contrast, Cho et al. are concerned with bubbling caused by the colloidal material contained in coffee. In fact, Aspartame is not even mentioned by Cho et al. in the preparation of carbonated coffee drinks. There is certainly no recognition in Cho et al. that Aspartame produces foam. Since Morey and Cho al. are solving two very different types of foaming problems, one would not be motivated to use the additives described by Cho et al. in the cup described by Morey. Accordingly, there is no prima facie case of obviousness.

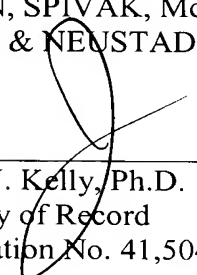
In addition, the data presented in the specification demonstrates that the claimed emulsifier is more effective in preventing foam as compared to a silicone-based anti foaming as described by Morey. Table 2 at page 11 of the specification describes the preparation of three cola-flavored liquids. The Control contains no anti foaming agent. Trial 1 contains the emulsifier of the present invention. Trial Sample 3 contains a silicone emulsifier. As reported at the bottom of page 11 of the specification and as shown in Figures the application, Trial Sample 1 had a higher foam-eliminating effect as compared to Sample 2. These results demonstrate that the emulsifier of the present invention is superior to the silicone-based material. This result could not be predicted from the combination of Morey and Cho et al. Morey fails to disclose the claimed emulsifier and Cho et al. fail to even mention the presence of Aspartame in a carbonated beverage.

In view of the foregoing, the claimed raw material liquid is not suggested by the combination of Morey and Cho et al. Accordingly, Claims 1-16 are not obvious over those references. Withdrawal of this ground of rejection is respectfully requested.

Applicants submit that the present application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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